

**What Is Claimed Is:**

1           1.       A method for configuring a plurality of network interfaces  
2       coupling a plurality of computers, comprising:  
3           receiving a request at a computer of the plurality of computers to configure  
4       the plurality of computers into a cluster of computers, wherein the cluster of  
5       computers function in concert as a single unit;  
6           establishing at the computer whether a network interface of the plurality  
7       of network interfaces is one of private and public, wherein a private network  
8       interface is used for intercommunications within the cluster of computers and a  
9       public network interface is used for communications with a client computer;  
10          determining a connectivity among the plurality of computers;  
11          calculating a configuration for the cluster of computers; and  
12          installing the cluster of computers using the configuration.

1           2.       The method of claim 1, wherein establishing whether the network  
2       interface is one of private and public includes:  
3           sending a ping message on the network interface;  
4           receiving a plurality of responses to the ping message on the network  
5       interface;  
6           sending a router discovery message on the network interface;  
7           listening on the network interface for a response to the router discovery  
8       message; and  
9           classifying the network interface as public or private based on responses  
10       received, wherein the network interface is classified as private if a number of  
11       responses to the ping message is less than or equal to a number of computers in

1 the cluster and if no response was received from the router discovery message,  
2 otherwise classifying the network interface as public.

1 3. The method of claim 1, wherein determining the connectivity  
2 among the plurality of computers includes:  
3 sending a message on the network interface, wherein the message  
4 identifies a sending computer and the network interface;  
5 listening for a response to the message on the network interface; and  
6 creating a data structure containing a matrix of responses received for the  
7 network interface.

1 4. The method of claim 3, wherein sending the message includes  
2 using a data link provider interface (DLPI).

1 5. The method of claim 3, wherein calculating the configuration for  
2 the cluster of computers includes:  
3 requesting the matrix from each computer in the plurality of computers;  
4 combining the matrix from each computer into a master matrix;  
5 examining the master matrix for a pair of computers with at least two  
6 private network interfaces; and  
7 adding the pair of computers to the cluster of computers.

1 6. The method of claim 1, further comprising:  
2 presenting the configuration to an administrator; and  
3 allowing the administrator to edit the configuration.

1           7.       The method of claim 6, wherein presenting the configuration to the  
2 administrator includes one of displaying the configuration on a web browser and  
3 displaying the configuration on a text-based display screen.

1           8.       The method of claim 7, wherein allowing the administrator to edit  
2 the configuration includes:  
3           accepting a change to the configuration from the administrator;  
4           verifying that the change to the configuration does not violate an  
5 established rule for the configuration; and  
6           if the change to the configuration is valid, incorporating the change into  
7 the configuration.

1           9.       The method of claim 8, further comprising passing the  
2 configuration to a configuration program for configuration of the cluster.

1           10.      A computer-readable storage medium storing instructions that  
2 when executed by a computing device causes the computing device to perform a  
3 method for configuring a plurality of network interfaces coupling a plurality of  
4 computers, the method comprising:  
5           receiving a request at a computer of the plurality of computers to configure  
6 the plurality of computers into a cluster of computers, wherein the cluster of  
7 computers function in concert as a single unit;  
8           establishing at the computer whether a network interface of the plurality  
9 of network interfaces is one of private and public, wherein a private network  
10 interface is used for intercommunications within the cluster of computers and a  
11 public network interface is used for communications with a client computer;  
12           determining a connectivity among the plurality of computers;

13       calculating a configuration for the cluster of computers; and  
14       installing the cluster of computers using the configuration.

1       11.     The computer-readable storage medium of claim 10, wherein  
2       establishing whether the network interface is one of private and public includes:  
3       sending a ping message on the network interface;  
4       receiving a plurality of responses to the ping message on the network  
5       interface;  
6       sending a router discovery message on the network interface;  
7       listening on the network interface for a response to the router discovery  
8       message; and  
9       classifying the network interface as public or private based on responses  
10      received, wherein the network interface is classified as private if a number of  
11      responses to the ping message is less than or equal to a number of computers in  
12      the cluster and if no response was received from the router discovery message,  
13      otherwise classifying the network interface as public.

1       12.     The computer-readable storage medium of claim 10, wherein  
2       determining the connectivity among the plurality of computers includes:  
3       sending a message on the network interface, wherein the message  
4       identifies a sending computer and the network interface;  
5       listening for a response to the message on the network interface; and  
6       creating a data structure containing a matrix of responses received for the  
7       network interface.

1       13.     The computer-readable storage medium of claim 12, wherein  
2       sending the message includes using a data link provider interface (DLPI).

1           14.     The computer-readable storage medium of claim 12, wherein  
2     calculating the configuration for the cluster of computers includes:  
3           requesting the matrix from each computer in the plurality of computers;  
4           combining the matrix from each computer into a master matrix;  
5           examining the master matrix for a pair of computers with at least two  
6     private network interfaces; and  
7           adding the pair of computers to the cluster of computers.

1           15.     The computer-readable storage medium of claim 10, the method  
2     further comprising:  
3           presenting the configuration to an administrator; and  
4           allowing the administrator to edit the configuration.

1           16.     The computer-readable storage medium of claim 15, wherein  
2     presenting the configuration to the administrator includes one of displaying the  
3     configuration on a web browser and displaying the configuration on a text-based  
4     display screen.

1           17.     The computer-readable storage medium of claim 16, wherein  
2     allowing the administrator to edit the configuration includes:  
3           accepting a change to the configuration from the administrator;  
4           verifying that the change to the configuration does not violate an  
5     established rule for the configuration; and  
6           if the change to the configuration is valid, incorporating the change into  
7     the configuration.

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1           18.     The computer-readable storage medium of claim 17, wherein the  
2 method further comprises passing the configuration to a configuration program for  
3 configuration of the cluster.

1           19.     An apparatus that facilitates configuring a plurality of network  
2 interfaces coupling a plurality of computers, comprising:  
3           a receiving mechanism configured to receive a request at a computer of the  
4 plurality of computers to configure the plurality of computers into a cluster of  
5 computers, wherein the cluster of computers function in concert as a single unit;  
6           an establishing mechanism configured to establish at the computer  
7 whether a network interface of the plurality of network interfaces is one of private  
8 and public, wherein a private network interface is used for intercommunications  
9 within the cluster of computers and a public network interface is used for  
10 communications with a client computer;  
11           a determining mechanism configured to determine a connectivity among  
12 the plurality of computers;  
13           a calculating mechanism configured to calculate a configuration for the  
14 cluster of computers; and  
15           an installing mechanism configured to install the cluster of computers  
16 using the configuration.

1           20.     The apparatus of claim 19, further comprising:  
2           a sending mechanism configured to send a ping message on the network  
3 interface;  
4           a listening mechanism configured to receive a plurality of responses to the  
5 ping message on the network interface;

6 wherein the sending mechanism is further configured to send a router  
7 discovery message on the network interface;  
8 wherein the listening mechanism is further configured to receive a  
9 response to the router discovery message on the network interface; and  
10 a classifying mechanism that is configured to classify the network  
11 interface as public or private based on responses received, wherein the network  
12 interface is classified as private if a number of responses to the ping message is  
13 less than or equal to a number of computers in the cluster and if no response was  
14 received from the router discovery message, otherwise classifying the network  
15 interface as public.

1 21. The apparatus of claim 19, further comprising:  
2 a sending mechanism that is configured to send a message on the network  
3 interface, wherein the message identifies a sending computer and the network  
4 interface;  
5 a listening mechanism that is configured to receive a response to the  
6 message on the network interface; and  
7 a creating mechanism that is configured to create a data structure  
8 containing a matrix of responses received for the network interface.

1 22. The apparatus of claim 21, wherein the sending mechanism is  
2 configured to use a data link provider interface (DLPI).

1 23. The apparatus of claim 21, further comprising:  
2 a requesting mechanism that is configured to request the matrix from each  
3 computer in the plurality of computers;

4 a combining mechanism that is configured to combine the matrix from  
5 each computer into a master matrix;  
6 an examining mechanism that is configured to examine the master matrix  
7 for a pair of computers with at least two private network interfaces; and  
8 an adding mechanism that is configured to add the pair of computers to the  
9 cluster of computers.

1 24. The apparatus of claim 19, further comprising:  
2 a presentation mechanism configured to present the configuration to an  
3 administrator; and  
4 an editing mechanism configured to allow the administrator to edit the  
5 configuration.

1 25. The apparatus of claim 24, wherein the presentation mechanism is  
2 configured to present the configuration to the administrator by one of displaying  
3 the configuration on a web browser and displaying the configuration on a text-  
4 based display screen.

1 26. The apparatus of claim 25, further comprising:  
2 an accepting mechanism that is configured to accept a change to the  
3 configuration from the administrator;  
4 a verifying mechanism that is configured to verify that the change to the  
5 configuration does not violate an established rule for the configuration; and  
6 an incorporating mechanism that is configured to incorporate the change  
7 into the configuration, if the change to the configuration is valid.



- 1           27.     The apparatus of claim 26, further comprising a passing
- 2     mechanism configured to pass the configuration to a configuration program for
- 3     configuration of the cluster.